HANDBOOK OF PHONOLOGICAL DATA
FROM A SAMPLE OF THE WORLD'S LANGUAGES

A Report of the Stanford Phonology Archive

Compiled and edited by

John H. Crothers
James P. Lorentz
Donald A. Sherman
Marilyn M. Vihman

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780 Nez Perce

780 01 p
[p-aspirated][60]
[p-unreleased][01 60]
[p-aspirated-weak][60]

780 02 p-ejective[02]

780 03 t-dental
[t-dental-aspirated][60]
[t-dental-palatalized][61]
[t-dental-unreleased][01 60]
[t-dental-aspirated-weak][60]

780 04 t-dental-ejective[02]

780 05 t[03]
[t-aspirated][60]
[t-palatalized][62]
[t-unreleased][01 60]
[t-aspirated-weak][60]

780 06 t-ejective[02]

780 07 k[30]
[k-aspirated-weak][60]
[k-palatalized][62]

780 08 k-ejective[02]

780 09 q/x-uvular
[q-aspirated-weak][60]
[q-unreleased][01 60]

780 10 q-ejective[02]

780 11 s-laminal[03]
[s-laminal-palatalized][62]

780 12 x[04]
*[x-uvular]

780 13 x-uvular[63]
(tag(+),allo)
*/x/

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[r-trill-uvular-voiceless][04 63]

14 m
[m-voiceless][64]
(free)

15 m-creaky voice[05]
[m-preglottalized-voiceless][06 65]

16 n
[n-palatalized][61]
[eng][66]
[n-voiceless][64]
(free)

17 n-creaky voice[05 31]

18 l-laminal[07]
[l-laminal-palatalized][61]
[l-laminal-voiceless][67]

19 l-laminal-creaky voice[05 07]
[l-laminal-preglottalized-voiceless][06 65]

20 l-fricative[07]
[t/l-fricative][68]
(free)
[l-fricative-palatalized][61]

21 glottal stop

22 h

51 iota
[schwa-glide/iota][69]

52 i-long

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[schwa-glide/i-long][69]

53 ash
[epsilon][70]

54 ash-long
[epsilon-long][70]

55 a
[ash-dot][71]

56 a-long
[ash-dot-long][71]

57 iota-trema
[upsilon][08]
(free)

58 i-trema-long
[u-long][08]
(free)

59 o-open
[o-mid][71]

60 o-open-long
[o-mid-long][71]

61 yod
[j-fricative][72]
[yod-voiceless][64]
(free)

62 yod-creaky voice[05]
[yod-preglottalized-voiceless][06 65]

63 w
[w-voiceless][64]
(free)

64 w-creaky voice[05]
[w-preglottalized-voiceless][06 65]

780 $a Nez Perce $b Upper $d Penutian $e Idaho $f a "small fraction" of 2100 tribal members (1968) $g Merritt Ruhlen $g Marc Okrand (review)

780 $a Aoki, Haruo $b 1970 $c Nez Perce Grammar $f (UCPL 62) $g Berkeley: U.C. Press $q Informants $r 2 years

780 $a Aoki, Haruo $b 1970a $c A note on glottalized consonants $d Phonetica 21.65-74. $r 2 years

780 $a Aoki, Haruo $b 1966 $c Nez Perce vowel harmony and Proto-Sahaptian vowels $d Language 42.759-767. $q Informants $r 2 years

780 $a **INTONATION** $A Aoki treats intonation as "juncture" phonemes. "Pause form...is characterized by a clearly marked short silence. The following long stressed syllable starts with middle pitch." "Terminal contour...is characterized by a slight drop in pitch." (p.20)

780 $a **LAX VOWELS (NON-DISTINCTIVE)** $A "All unstressed vowels have somewhat centralized lenis and lax allophones." (p.18)

780 $a **LONG VOWELS** $a **LONG CONSONANTS** $A Vowel length "is characterized by relative tenseness in the syllable and a vowel length of approximately two morae." (p.20) $A "The voiceless plain stops /p/, /t-dental/, /t/ and /q/x-uvular/ occur in close transition when geminated. /k/ and /glottal stop/ do not geminate." (p.11) A geminate stop cluster is treated as an unreleased stop followed by a stop "without initial closure." (p.11-13) Geminated stops occur only before

vowels.

780 $a NASALIZED VOWELS (NON-DISTINCTIVE) $A "After /h/ or /glottal stop/ and before /n/, stressed vowels are frequently nasalized." (p.18)

780 $a PHARYNGEALIZED VOWELS $A After glottalization (that is, ejective stops and creaky voice sonorants and glides) "vowels have a pharyngealized quality." (p.18)

780 $a PHONOLOGICAL WORD $A initial C: no glottalized continuants $A final C: not /k, g/x, h/ nor glottalized stops (with one exception)

780 $a STRESS $A Stress "is characterized by high pitch and relative loudness in the syllable." (p.20) A "long stressed syllable" following "phonological word juncture," or word boundary, is characterized by "a mid-to-high glide [in pitch]." (p.20) A "long stressed syllable" following a pause ("pause form" of juncture) "starts with middle pitch." (p.20) Aoki does not give rules for stress. A brief inspection of examples seems to indicate that it is lexically and morphologically determined. See morphology sections of grammar. However, there is a tendency (not a rule) for stress to be penultimate, or final if the penult is short and the final syllable heavy (long V or final CC). [JHC]

780 $a SYLLABLE $A CV(:)(C)(C)(C)(C) $A initial C: any C or G

780 $a VOWEL HARMONY $A Within a word, either the vowels in the set /iota, ash, iota-trema/ (or their long counterparts /i-long, ash-long, i-trema-long/) or the vowels in the set /iota, a, o-open/ (/i-long, a-long, o-open-long/) occur. "Certain morphemes are variable and may have vowels of either group, while others have only the second group. The latter type of morpheme, whether stem or affix, dictates the vowel harmony." (Aoki 1966, p.759) Thus, if at least one morpheme contains at least one vowel of the "dominant" set (/iota, a, o-open/), vowels of the "recessive" set change to their dominant counterparts: /ash/ becomes /a/, /iota-trema/ becomes /o-open/ (and similarly for long vowels: /ash-long/ becomes /a-long/, /i-trema-long/ becomes /o-open-long/). "Recessive" vowels occur only if no morpheme in the word contains a "dominant" vowel. /iota/ and /i-long/ are in both sets of vowels. If /iota/ is "dominant" /iota/, only "dominant" vowels occur (and similarly for /i-long/). Aoki treats the few exceptions to word-length vowel harmony by setting up "harmonic sequences" which are usually, but not always, coterminous with the word. Harmonic sequences which are shorter than the word are marked by a "harmonic sequence boundary marker" across which the vowel harmony rule does not apply. (p.41) Various proposals have been advanced to handle Nez Perce vowel harmony by means of abstract underlying vowels, including a sixth vowel to account for both "dominant" and "recessive" /iota/ (and /i-long/). Historical changes have also been considered. Some relevant articles are: Aoki 1966; Aoki, Haruo. 1968. Toward a typology of vowel harmony. IJAL 34.142-145; Jacobsen, William. 1968. On the prehistory of Nez Perce vowel harmony. Language 44.819-829; Rigsby, Bruce. 1965. Continuity and change in Sahaptian vowel systems. IJAL 31.306-311; Rigsby, Bruce and Michael Silverstein. 1969. Nez Perce vowels and Proto-Sahaptian vowel harmony. Language 45.45-59; Zwicky, Arnold. 1971. More on Nez Perce: On alternative analyses. IJAL 37.122-126.

780 01 $A The second member of a geminate cluster lacks "initial closure." (p.11-13) Geminated stops occur only before vowels.

780 02 $A "In glottalized stops, after simultaneous closure at the two points, the oral closure is released slightly before the release of the glottal closure. As a result a slight pop is sometimes produced." (p.16) In very infrequently occurring sequences of consonant plus /glottal stop/, the articulatory stages are: "first, oral closure; then simultaneous oral release and glottal closure; and finally, glottal release." (p.17)

780 03 $A /t/ is described as "apico-alveolar" but is referred to in the statement of a rule as "lamino-alveolar." In other idiolects and dialects, /t/ and /s-laminal/ are palatalized in all environments. (p.11)

780 04 $A /x/ is "less fortis" than [r-trill-uvular-voiceless]. (p.14)

780 05 $A "Intervocalic glottalized continuants are laryngealized sounds" (p.72); on a sound spectrogram, they are "characterized by absence of noise and by a middle section which in the amplitude display shows either a dramatic saw-tooth fluctuation...or a sharp dip...preceded and followed by lowering density of vertical striations in the contiguous vowels. Both the fluctuation and the dip are associated with an extraordinary lowering of frequency of the glottal pulse." (p.68) Glottalized continuants do not occur word initially. They have creaky voice between vowels, but they also occur after a consonant and before a vowel, as well as after a vowel and before a consonant. No information is available on their articulation in these latter two environments.

780 06 $A "The word final manifestation is a sequence of a /glottal stop/ and a voiceless continuant" (Aoki 1970a, p.71); "word final glottalized continuants are characterized [in sound spectrograms] (1) by lowering density of vertical striations in the last portion of the preceding vowel, (2) by a marked decrease of total energy in the amplitude display, and absence of a voice bar along the base line, and (3) by a subsequent indication of noise." (Aoki 1970a,

p.68-69)

780 07 $A Place of articulation not clearly specified. All laterals are listed in the consonant chart (Aoki 1970, p.10) under "dental," but /l-laminal/ and /l-fricative/ are later individually described as "lamino-alveolar" and apico-alveolar" respectively. (Aoki 1970, p.14-15) /l-laminal-creaky voice/ is described only as "lateral." (Aoki 1970, p.17)

780 08 $A "In general, rounding is non-distinctive." (p.19) "There is considerable individual variation in the degree of rounding" of /iota-trema/ and /i-trema-long/, from unrounded to fully rounded. (Aoki 1966, p.759)

780 30 $A /k/ does not geminate.

780 31 $A /n-creaky voice/ is not found word-finally, though this lack is "probably fortuitous." (Aoki 1970, p.17)

780 60 $A The stops and affricate are strongly aspirated word-finally, unreleased as first member of a geminate cluster, and moderately aspirated as first member of a non-geminate cluster. /k, q/x-uvular/ do not occur finally.

780 61 $A /t-dental/, /n/, /l-laminal/, and /l-fricative/ are palatalized before /iota-trema/ and /i-trema-long/.

780 62 $A /t/, /s-laminal/, and /k/ are palatalized before /iota/ and /i-long/.

780 63 $A /x-uvular/ is realized as [r-trill-uvular-voiceless] between consonants. (p.14) /x/ is backed before uvular obstruents. Presumably this backed variant is [x-uvular], although Aoki does not use this symbol. [JHC]

780 64 $A /m/, /n/, and the glides are "frequently" voiceless word finally. (p.11, 14)

780 65 $A The glottalized sonorants and glides are preglottalized and voiceless word-finally. (Aoki 1970a, p.68-71)

780 66 $A /n/ is realized as [eng] before a velar or uvular obstruent. (p.15)

780 67 $A /l-laminal/ is devoiced word-finally. (p.15)

780 68 $A /l-fricative/ may be realized as [t/l-fricative] intervocalically. (p.14)

780 69 $A /iota/ and /i-long/ are realized as [schwa-glide/iota], and [schwa-glide/i-long] after a uvular obstruent. (p.18)

780 70 $A /ash/ and /ash-long/ are raised to [epsilon] and [epsilon-long] after /yod/. (p.19)

780 71 $A /a/, /a-long/, /o-open/, and /o-open-long/ are raised to [ash-dot], [ash-dot-long], [o-mid], and [o-mid-long], respectively, after /w/ or /m/. (p.19)

780 72 $A /yod/ is realized as [j-fricative] after /n/ and prevocalically. (p.15)